

IN THE UNITED STATES PATENT AND TRADEMARK OFFICE
Before the Board of Patent Appeals and Interferences

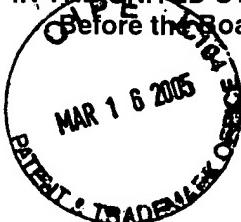
In re Patent Application of

GRAY

Serial No. 09/486,183

Filed: February 23, 2000

Title: FIBRE REINFORCED COMPOSITES



Atty Dkt. 540-188

C# M#

TC/A.U.: 1733

Examiner: J. Aftergut

Date: March 16, 2005

Mail Stop Appeal Brief - Patents

Commissioner for Patents

P.O. Box 1450

Alexandria, VA 22313-1450

Sir:

Correspondence Address Indication Form Attached.

NOTICE OF APPEAL

Applicant hereby **appeals** to the Board of Patent Appeals and Interferences from the last decision of the Examiner twice/finally rejecting \$500.00 (1401)/\$250.00 (2401) \$ applicant's claim(s).

An appeal **BRIEF** is attached in the pending appeal of the above-identified application

\$500.00 (1402)/\$250.00 (2402) \$

Credit for fees paid in prior appeal without decision on merits

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A reply brief is attached in triplicate under Rule 41.41

(no fee)

Petition is hereby made to extend the current due date so as to cover the filing date of this paper and attachment(s)

One Month Extension \$120.00 (1251)/\$60.00 (2251)

Two Month Extensions \$450.00 (1252)/\$225.00 (2252)

Three Month Extensions \$1020.00 (1253)/\$510.00 (2253)

Four Month Extensions \$1590.00 (1254)/\$795.00 (2254) \$

"Small entity" statement attached.

Less month extension previously paid on

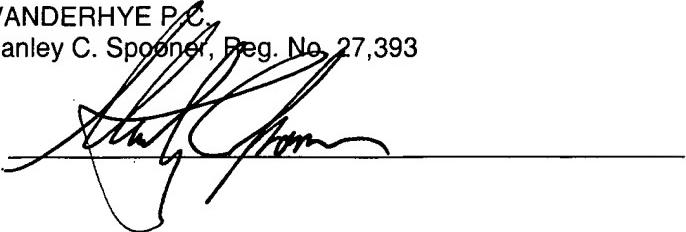
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TOTAL FEE ENCLOSED \$ 0.00

Any future submission requiring an extension of time is hereby stated to include a petition for such time extension. The Commissioner is hereby authorized to charge any deficiency, or credit any overpayment, in the fee(s) filed, or asserted to be filed, or which should have been filed herewith (or with any paper hereafter filed in this application by this firm) to our **Account No. 14-1140**. A duplicate copy of this sheet is attached.

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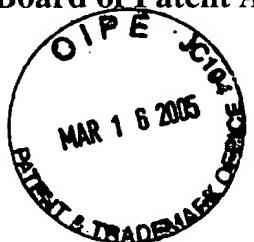
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REPLY BRIEF

This Reply Brief is responsive to the Examiner's Answer mailed January 17, 2005, the date of response to which is March 17, 2005.

The Examiner's Answer raises numerous new points of argument which require response by the Appellant. The following comments are to be taken in conjunction with Appellant's Appeal Brief as submitted on December 10, 2004.

**I. The Examiner misstates Appellant's position
regarding the requirements of claim 1**

In the second paragraph on page 16 of the Examiner's Answer, the Examiner alleges that Appellant "takes the position in his argument for patentability" that the Vane reference failed to teach reinforcement "by one of **stitching**, interlacing or otherwise

distributing the additional fibers in the reinforcing fibers prior to the step of pultruding.” (emphasis added). Appellant’s claim 12 actually specifies the step of “incorporating” by “at least one of **splicing**, interlacing and otherwise distributing” (emphasis added) additional fibers in the preexisting reinforcing fibers prior to the drawing step.

Perhaps the statement by the Examiner and his use of the term “stitching” was a typographical error and he meant to say “splicing” which is recited in Appellant’s claim. However, it should be recognized that the Examiner’s allegation that Appellant argues that “stitching” is part of Appellant’s claim 12 is simply incorrect.

Also, although not central to this decision, the Examiner misunderstands the Court of Appeals for the Federal Circuit decisions relating to “step plus function” claim language. The Examiner believes that all step-plus-function format claims “must use the language ‘step for . . .’.” The Examiner appears to suggest that use of the “step for . . .” phrase is mandatory in order for a step in a method claim to be considered a “step plus function” portion of the claim. While this language, just as the phrase “means for,” may establish a presumption that the claim is step-plus-function format, it is not the determinor of application of §112.

As the Court of Appeals for the Federal Circuit has clearly held (see, for example, *Epcon Gas Systems Inc. v. Bauer Compressors Inc.*, 61 USPQ2d 1470, 1475), the recitation of a series of steps without a recital of function is not a “step plus function” format claim. However, in claim 12, prior to the entry of the Rule 116 Amendment, the language of the claim read “incorporating in the reinforcing fibers prior to the drawing step **additional fibers in order to vary the strength characteristics of the final**

product substantially without altering the cross-sectional area thereof.” (emphasis added). This addition of the function attributed to the “incorporating” step takes this step from a non- “step plus function” format to the classic “step plus function” format, whether or not it includes specific “step for” language.

However, because independent claim 12 has been amended for the purpose of appeal to positively recite the manner in which the incorporating step is implemented, i.e., “by at least one of splicing, interlacing and otherwise distributing [additional fibers] in the reinforcing fibers,” the issue is mooted.

II. The Examiner misinterprets the teaching of the Vane reference, both in the abstract and at column 3, lines 34-51

Appellant notes on page 15 of the Appeal Brief that nowhere in the Final Rejection (and indeed nowhere in the Examiner’s Answer) does the Examiner suggest that Vane teaches a pultrusion process in which the incorporating step requires the addition of patches or any “splicing, interlacing or otherwise distributing [additional fibers] in the reinforcing fibers” as specified in Appellant’s claim.

On page 17 of the Examiner’s Answer, the Examiner quotes the abstract from Vane and underlines various portions of the abstract. However, the abstract simply discloses that a reinforcing material is provided, which has a plurality of superimposed layers, a step for stitching together those layers, a step for wetting the material with a matrix material, the step of forming the wetted reinforcing material and the step of curing or consolidating the matrix material. At the end of the abstract, it is stated that the

forming of the wetted reinforcing material may be effected by molding, pultrusion or by wrapping. There is no disclosure in the abstract of any “additional fibers” being added to the “reinforcing fibers” (presumably analogous to the recited “reinforcing material” referred to in the abstract). Therefore, the abstract does not support the Examiner’s contention.

The Examiner also refers to a portion of the Vane reference at column 3, lines 34-51, which appears to be a portion of the summary of the invention in the Vane patent. The discussion between lines 34 and 51, while talking about the possibility of using pultrusion to form the “wetted reinforcing material,” does not contain any suggestion of Appellant’s claimed incorporating step, i.e., incorporating “**by at least one of splicing, interlacing or otherwise distributing** [additional fibers] in the reinforcing fibers” (emphasis added).

The only portion of the Vane reference which discusses any addition of fibers to the reinforcing fibers is the reference at column 5, lines 60-65, which discusses woven fiber patches 3a, 4a of reinforcing material that can be inserted between adjacent layers prior to stitching in order to “provide additional reinforcement or **thickness** of a required size and shape.” (Emphasis added). This is a discussion which relates to the embodiment of Figure 1, and there is no disclosure that the Vane embodiment of Figure 1 can be formed with the process of pultrusion.

For a Vane embodiment which discloses or discusses pultrusion, the Examiner has to refer to the embodiment shown in Figure 3, and Appellant has previously noted that this embodiment fails to disclose the addition of any additional fibers, especially any

additional fibers which are incorporated by “at least one of splicing, interlacing or otherwise distributing” as set out in Appellant’s independent claim 12.

Accordingly, the Examiner’s citations to the Vane reference do not support his contentions that there is a teaching of any incorporation of additional fibers in a reinforcing fiber structure in combination with a pultrusion process and certainly no disclosure of any incorporation step which includes incorporating “by at least one of splicing, interlacing and otherwise distributing” as clearly recited in the claim.

III. The Examiner contradicts his own suggestion as to the Vane teaching

On page 18, beginning at line 19 of the Examiner’s Answer, the Examiner suggests that in the Vane reference to Figure 1, patches were added to the other plies of reinforcement in order to impart additional strength “or thickness to the reinforcement” apparently conceding that the addition of the woven fiber patches in Vane clearly will increase the thickness of the layup of material.

If the addition of patches to impart “additional . . . thickness” (as clearly taught by Vane), then they clearly alter the final shape of the finished assembly (by increasing the thickness). The Examiner does not explain how the patches can provide additional thickness (as taught by Vane) and still suggest or render obvious the Appellant’s claimed method of steps which varies the strength characteristics of the final product “substantially without altering the cross-sectional area thereof” (emphasis added).

Clearly, if Vane suggests applying patches to provide increased thickness, this would change the cross-sectional area of the Vane product, thereby falling outside the

scope of Appellant's independent claim 12. Thus, the Examiner's own statement contradicts his application of the Vane reference.

IV. The Examiner misapprehends the lack of teaching contained in Vane's broad claims

The Examiner, beginning on page 20 of the Examiner's Answer, recites claims 1, 16 and 17 from the Vane patent. Claim 1 does not specify a process in which additional fibers are incorporated "by at least one of splicing, interlacing or otherwise distributing [the additional fibers] in the reinforcing fibers prior to the drawing step." In fact, while claim 1 is so broad as to possibly encompass processes in which there is no incorporation step, as well as a process which includes an incorporation step, there is no disclosure of any "incorporating" step.

Claim 1 also is so broad as to possibly cover non-pultrusion non-die methods of forming the wetted reinforcing material and die methods. Dependent claim 16 limits claim 1 to a die forming method, and claim 17, dependent on claim 16, limits the die to a pultrusion die. Thus, whether one looks at claim 1 or claim 17, there is no disclosure of Appellant's "incorporating" step at anywhere in any of these three claims. The Examiner fails to identify any teaching of Appellant's "incorporating" step in the Vane reference.

Additionally, while claim 1 might ostensibly cover Appellant's "incorporating" step and, specifically, an incorporating step using "at least one of splicing, interlacing or otherwise distributing" the additional fibers in the reinforcing fibers, it does not teach this specific step. Thus, while Vane's claim 1 may (assuming all other steps are present) be

construed to be broad enough to cover Appellant's invention, it still fails to disclose Appellant's claimed incorporating step and thus Appellant's invention.

As a result, the Examiner is simply misunderstanding and confusing what is possibly covered by the Vane patent claims 1, 16 and 17 with that which is taught by the Vane claims. Vane, even if it covers Appellant's invention, certainly does not disclose it.

Thus, the Examiner has again failed to respond to the clear difference between **what is covered by the Vane patent and what is disclosed by the Vane patent.** In order to support a *prima facie* case of obviousness, the Examiner may only rely upon that which is disclosed or rendered obvious by the Vane reference, and this has not been shown to include Appellant's claimed "incorporating" step.

V. The Examiner misapplies 35 USC §282 in support of the Vane rejection

In the paragraph bridging pages 20 and 21 of the Examiner's Answer, the Examiner suggests that 35 USC §282 somehow mitigates his failure to meet the burden of establishing a *prima facie* case of obviousness. The Examiner's rationale goes as follows:

Appellant has noted that it would be obvious to one of ordinary skill in the art that if the reinforcing patches 3a and 4a, associated with the embodiment shown in Vane's Figure 1, were to be used the embodiment shown in Vane's Figure 3, the patches would necessarily clog the die and the pultrusion operation would be inoperable. This would be painfully obvious to anyone having even ordinary skill in the art, as the increased "thickness" caused by the patches (admitted in Vane at column 5, line 64) would not be

capable of being drawn through the die, especially because such a patch, at least as shown in Vane Figure 1, would result in a step change in cross-sectional area (the admitted increase in thickness as discussed in Vane) of the Reinforcing fibers which would approach the pultrusion die. The material would go from a smaller cross-sectional area immediately prior to the patch location to a larger cross-sectional area at the patch, which step change in cross-sectional area, as would be obvious to those of ordinary skill in the art, would choke or clog the die.

Appellant merely notes that this is the consequence of the Examiner's combination of patches from Figure 1 in Vane and the pultrusion method shown in Figure 3 of Vane. The Examiner correctly notes that Appellant has not submitted any additional evidence in terms of declaration or expert opinion, etc., regarding this obvious consequence of the Examiner's combination. There is believed to be no burden on an Appellant to provide evidence of obvious consequences to an Examiner's speculative 20/20 hindsight combination of method steps taken from a prior art reference.

Instead of simply arguing that Appellant has provided no evidence in support and instead of providing some description by which he explains how the step change in thickness would pass through the pultrusion die without clogging, the Examiner merely suggests that 35 USC §282 indicates that a patent is presumed valid. Appellant does not doubt the validity of the Vane patent. What Appellant doubts, and what would be clearly obvious to those of ordinary skill in the art, is that the Examiner's combination of patches from one embodiment of the Vane invention (in Figure 1) with the pultrusion through a

die process disclosed in another separate embodiment of the Vane invention (in Figure 3) would operate.

Appellant does not contest the validity of the Vane patent, but does contest the validity of the Examiner's argument and the Examiner's suggestion that one could combine a portion of the Figure 1 embodiment with the process in the Figure 3 embodiment and have an operable invention. 35 USC §282 has nothing to say about the Examiner's speculation as to what might be contained in the Vane reference - the only material the Board can take is that which is actually shown or disclosed in the Vane reference. The Examiner has provided no evidence to support his contention, and of course he is not entitled to use 20/20 hindsight reasoning.

In summary, Appellant does not contest the validity of the Vane patent and therefore the Examiner's reliance upon 35 USC §282 is misplaced. The burden is on the Examiner to establish how or why separate aspects of two different embodiments in the Vane patent (the embodiment shown in Figure 1 and the embodiment shown in Figure 3) can be combined, and the Examiner has failed to meet his burden of proof that such combination would be obvious or that such combination would even be successful.

VI. Conclusion

While individual portions of the Examiner's Answer can be attacked, the summary of the entire official action is that the Examiner has not pointed to where Vane contains any teaching of Appellant's incorporating step, which specifically states that the incorporation step is "by at least one of splicing, interlacing or otherwise distributing in

the reinforcing fibers prior to the drawing step additional fibers in order to vary the strength characteristics of the final product substantially without altering the cross-sectional area thereof."

Vane teaches that patches can be used in a bulk lay-up embodiment shown in Figure 1 to create areas of additional thickness and that constant cross-section products can be created using a pultrusion die in embodiment shown in Figure 3. Since Vane specifically teaches that the addition of patches in embodiment 1 are utilized in order to provide additional "thickness" when needed in the bulk lay-up embodiment of Figure 1, the Examiner does not indicate how or why he or one of ordinary skill in the art is motivated to combine the patches of the Figure 1 embodiment with the pultrusion method of the Figure 3 embodiment, nor does he indicate where Vane contains any teaching of the incorporation by the claimed "splicing, interlacing or otherwise distributing." These failures doom the Examiner's argument.

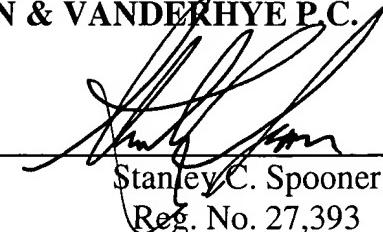
Thus, and in view of the above, the rejection of claims 12-24 under 35 USC §102 and/or §103 is clearly in error and reversal thereof by this Honorable Board is respectfully requested.

GRAY
Serial No. 09/486,183

Respectfully submitted,

NIXON & VANDERHYE P.C.

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